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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Present Application

Applicants : Kenneth H. Abbott et al.
 Filed : July 16, 2001
 For : THEMATIC RESPONSE TO A COMPUTER USER'S
 CONTEXT, SUCH AS BY A WEARABLE PERSONAL
 COMPUTER
 Docket No. : 294438008US5

Prior Application

Application No. : 09/825,159
 Filed : April 2, 2001
 Art Unit : 2173

Commissioner for Patents
 Washington, DC 20231

PRELIMINARY AMENDMENT

Sir:

Please amend the application as follows:

In the Specification:

Please replace the paragraphs beginning at lines 4 and 14 of page 1 with the following paragraphs, respectively.

This application is a continuation of U.S. Patent Application No. 09/825,159, filed April 2, 2001 and currently pending. U.S. Patent Application No. 09/825,159 is a continuation-in-part of U.S. Patent Application No. 09/216,193 (Attorney

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Docket No. 29443-8001), filed December 18, 1998 and entitled "Method and System for Controlling Presentation of Information to a User Based on the User's Condition"; of U.S. Patent Application No. 09/464,659 (Attorney Docket No. 29443-8003), filed December 15, 1999 and entitled "Storing and Recalling Information to Augment Human Memories"; and of U.S. Patent Application No. 09/724,902 (Attorney Docket No. 29443-8002), filed November 28, 2000 and entitled "Dynamically Exchanging Computer User's Context," which claims the benefit of provisional U.S. Patent Application No. 60/194,006 filed April 2, 2000, each of which are hereby incorporated by reference in their entirety.

U.S. Patent Application No. 09/825,159 also claims the benefit of provisional U.S. Patent Application No. 60/193,999 (Attorney Docket # 29443-8008), filed April 2, 2000 and entitled "Obtaining And Using Contextual Data For Selected Tasks Or Scenarios, Such As For A Wearable Personal Computer," and of provisional U.S. Patent Application No. 60/194,123 (Attorney Docket # 29443-8024), filed April 2, 2000 and entitled "Supplying And Consuming User Context Data," both of which are hereby incorporated by reference in their entirety.

In the Claims:

Please cancel claims 1-133.

Please add the following new claims:

134. (New) A method in a wearable computing device for customizing one or more obtained defined themes used to present information to users, a current context of a user of the wearable computing device being represented by a plurality of context attributes that each model an aspect of the context, each of the defined themes modeling a distinct contextual situation of the user that has multiple contextual aspects and each having associated information to be presented to the user when the modeled contextual situation of the theme matches a current contextual situation of the user, the modeling of a contextual situation by specifying multiple context attributes and by

specifying one or more possible values associated with each of the specified context attributes, comprising:

receiving an indication of a current contextual situation of the user of the wearable computing device that includes current values for at least some of the plurality of context attributes;

receiving an indication of another computing device having access to one or more defined themes;

obtaining at least one of the accessible defined themes from the another computing device;

for each of the obtained themes, customizing the obtained theme and storing the customized theme so as to be available for use in presenting information to the user of the wearable computing device;

determining that one of the available defined themes models the current contextual situation such that the received current value for each of the context attributes specified for that one theme matches one of the specified possible values associated with that context attribute; and

presenting to the user the information that is associated with the one defined theme,
so that the user receives information that is appropriate to a contextual situation in which the user is situated.

135. (New) The method of claim 134 wherein the customizing of the obtained themes is based on explicit indications received from the user.

136. (New) The method of claim 134 wherein the customizing of the obtained themes is based on previously specified user preferences for the user.

137. (New) The method of claim 134 wherein the customizing of the obtained themes is based on likely user preferences of the user that are determined without intervention by the user.

138. (New) The method of claim 137 including, after the determining of the likely user preferences and before the customizing of the obtained theme, receiving explicit user approval of the customizing.

139. (New) The method of claim 137 including monitoring actions of the user in order to learn the likely user preferences.

140. (New) The method of claim 134 wherein the customizing of the obtained themes is to specialize the obtained themes for the user.

141. (New) The method of claim 134 wherein the customizing of the obtained themes is to specialize the obtained themes for the wearable computing device.

142. (New) The method of claim 134 wherein the customizing of the obtained themes is to modify the information to be presented that is associated with the obtained themes.

143. (New) The method of claim 134 wherein the customizing of the obtained themes is to modify the contextual situations modeled by the obtained themes.

144. (New) The method of claim 134 wherein the obtaining of one of the defined themes from the another computing device includes obtaining at least one context attribute that is specified by that one defined theme, a context server module able to provide values for one or more context attributes specified by that one defined theme and/or a context client module capable of receiving information related to that one defined theme and of producing responses appropriate to the contextual situation modeled by that one defined theme, and wherein the customizing of the obtained theme includes customizing one of the obtained context attributes, the obtained context server module, or the obtained context client module.

145. (New) The method of claim 134 wherein the one defined theme is one of the obtained themes and has an associated theme layout that specifies information appropriate to the contextual situation modeled by that theme and that specifies a manner of presenting the specified information, wherein the presenting of the information that is associated with the one defined theme includes presenting the appropriate information in the specified manner, and wherein the customizing of the one defined theme includes customizing the associated theme layout.

146. (New) The method of claim 134 including monitoring the user of the wearable computing device or a surrounding environment of that user in order to produce the included current context attribute values of the current contextual situation.

147. (New) The method of claim 134 including determining that the presented information associated with the one defined theme is inappropriate for the current contextual situation, and customizing the one defined theme to model the new contextual situation based on the determining.

148. (New) The method of claim 147 wherein the determining is based on a received user indication.

149. (New) The method of claim 134 including receiving an indication of a new contextual situation, determining that none of the available defined themes models the new contextual situation, and customizing one of the available defined themes based on the determining.

150. (New) A method in a computing device for receiving themes representing contextual situations and customizing the received themes for use in providing appropriate responses to the represented contextual situations, the method comprising:

receiving at least one theme from an external source, each of the received themes representing a contextual situation and associated with a type of response that is appropriate to the represented contextual situation;

customizing at least one of the received themes to reflect the computing device;

receiving an indication of a current contextual situation;

determining that one of the received themes represents the current contextual situation; and

providing the type of response that is associated with the one theme.

151. (New) The method of claim 150 wherein the one theme is one of the customized themes.

152. (New) The method of claim 150 wherein the representing of a contextual situation by a theme is with multiple context attributes related to that contextual situation and with criteria for determining values of those context attributes that match that contextual situation, wherein the current contextual situation includes multiple context attribute values, and wherein the determining that the one theme represents the current contextual situation is based on the included values of the current contextual situation containing values for the context attributes of the one theme that the criteria of the one theme determines to be matching values.

153. (New) The method of claim 150 wherein the customizing of the received themes is based on explicit indications received from a user of the computing device.

154. (New) The method of claim 150 wherein the customizing of the received themes is based on previously specified preferences for a user of the computing device.

155. (New) The method of claim 150 wherein the customizing of the received themes is based on likely preferences of a user of the computing device that are determined without intervention by the user.

156. (New) The method of claim 155 including, after the determining of the likely preferences and before the customizing of the received theme, receiving explicit user approval of the customizing.

157. (New) The method of claim 155 including monitoring actions of the user in order to learn the likely user preferences.

158. (New) The method of claim 150 wherein the customizing of the received themes is to specialize the received themes to a user of the computing device.

159. (New) The method of claim 150 wherein the customizing of the received themes is to specialize the received themes to the computing device.

160. (New) The method of claim 150 wherein the customizing of the received themes is to modify the types of response that are associated with the received themes.

161. (New) The method of claim 150 wherein the customizing of the received themes is to modify the contextual situations represented by the received themes.

162. (New) The method of claim 150 wherein the receiving of one of the themes includes receiving at least one context attribute that is specified by that one

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theme, a context server module able to provide values for one or more context attributes specified by that one theme and/or a context client module capable of producing responses appropriate to the contextual situation represented by that one theme, and wherein the customizing of that received theme includes customizing one of the received context attributes, the received context server module, or the received context client module.

163. (New) The method of claim 150 wherein the receiving of one of the themes includes receiving an associated theme layout that specifies information appropriate to the contextual situation represented by that theme and that specifies a manner of presenting the specified information, and wherein the customizing of that received theme includes customizing the associated theme layout.

164. (New) The method of claim 150 including determining that the provided type of response associated with the one theme is inappropriate for the current contextual situation, and customizing the one theme based on the determining.

165. (New) The method of claim 164 wherein the determining is based on a received user indication.

166. (New) The method of claim 150 including receiving an indication of a new contextual situation, determining that no available theme represents the new contextual situation, and customizing one of the available themes based on the determining.

167. (New) The method of claim 150 wherein the provided type of response includes presenting information to a user of the computing device that is appropriate to the current contextual situation.

168. (New) The method of claim 150 wherein the customizing of one of the received themes is in such a manner that the associated type of response for the customized theme includes presenting information specific to a user of the computing device.

169. (New) The method of claim 150 wherein the contextual situations represented by the received themes are activities of a user of the computing device.

170. (New) The method of claim 150 wherein one of the represented contextual situations relates to a situation of a user of the computing device.

171. (New) The method of claim 170 wherein the one represented contextual situation reflects a modeled mental state of the user.

172. (New) The method of claim 150 wherein one of the represented contextual situations relates to a situation of the computing device.

173. (New) The method of claim 150 wherein at least one of the represented contextual situations relates to a physical environment.

174. (New) The method of claim 150 wherein at least one of the represented contextual situations relates to a cyber-environment of a user of the computing device.

175. (New) The method of claim 150 wherein at least one of the received themes includes permission information that specifies how that theme can be customized, and wherein the customizing of that theme is performed in accordance with that permission information.

176. (New) The method of claim 175 wherein the permission information specifies that the theme cannot be modified, and wherein the customizing of that theme in accordance with that permission information includes not customizing the theme.

177. (New) A computer-readable medium whose contents cause a computing device to receive themes representing contextual situations and customize the received themes for use in providing appropriate responses to the represented contextual situations, by performing a method comprising:

receiving multiple themes each representing a contextual situation and associated with a type of response that is appropriate to the represented contextual situation;

customizing at least one of the received themes;

determining that one of the received themes represents a current contextual situation; and

providing the type of response that is associated with the one theme.

178. (New) The computer-readable medium of claim 177 wherein the computer-readable medium is a data transmission medium transmitting a generated data signal containing the contents.

179. (New) The computer-readable medium of claim 177 wherein the computer-readable medium is a memory of a computer system.

180. (New) A computing device for receiving themes representing contextual situations and customizing the received themes for use in providing appropriate responses to the represented contextual situations, comprising:

an input component capable of receiving at least one theme from an external source, each of the received themes representing a contextual situation and associated with a type of response that is appropriate to the represented contextual situation;

a customizing component capable of customizing at least one of the received themes in a manner specific to the computing device; and

a response provider component capable of determining that one of the received themes represents a current contextual situation and providing the type of response that is associated with the one theme.

181. (New) The computing device of claim 180 wherein the input component, the customizing component and the response provider component are executing in memory of the computing device.

182. (New) The computing device of claim 180 wherein the computing device is a wearable computer.

183. (New) A computer system for receiving themes representing contextual situations and customizing the received themes for use in providing appropriate responses to the represented contextual situations, comprising:

means for receiving at least one theme from an external source, each of the received themes representing a contextual situation and associated with a type of response that is appropriate to the represented contextual situation;

means for customizing at least one of the received themes in a manner specific to the computing device; and

means for determining that one of the received themes represents a current contextual situation and providing the type of response that is associated with the one theme.

184. (New) A computer-implemented method for defining a default theme and customizing that theme for use by a portable computing device in presenting information that is appropriate to a contextual situation represented by the theme, the method comprising:

defining a default theme representing a contextual situation by,

receiving a specification of the represented contextual situation;
 receiving one or more indications of information that is appropriate to
 the represented contextual situation; and

defining a theme based on the received indications that can be used by
 any of multiple computing devices to present the appropriate information when a current
 contextual situation matches the represented contextual situation; and

customizing the defined default theme based on the portable computing
 device so that the portable computing device can use the customized theme to present the
 appropriate information in a manner specific to the portable computing device.

185. (New) The method of claim 184 including distributing the
 customized theme to the portable computing device.

186. (New) The method of claim 184 including customizing the defined
 default theme for each of multiple other computing devices such that each of the
 customized themes are distinct.

187. (New) The method of claim 184 wherein the received specification
 of the represented contextual situation includes one or more indications of multiple
 context attributes that are related to the represented contextual situation and of criteria for
 determining values of the indicated context attributes that match the represented
 contextual situation, and wherein the defined theme is determined to match a contextual
 situation when context information for that contextual situation includes values for the
 indicated context attributes that are determined by the indicated criteria to match the
 represented contextual situation.

188. (New) The method of claim 184 wherein the customizing of the
 defined theme is based on explicit indications received from a user of the portable
 computing device.

189. (New) The method of claim 184 wherein the customizing of the defined theme is based on likely preferences of a user of the portable computing device that are determined without intervention by the user.

190. (New) The method of claim 189 including, after the determining of the likely preferences and before the customizing of the received theme, receiving explicit user approval of the customizing.

191. (New) The method of claim 184 wherein the customizing of the defined theme is to specialize the defined theme to a user of the portable computing device.

192. (New) The method of claim 184 wherein the customizing of the defined theme is to specialize the defined theme to the portable computing device.

193. (New) The method of claim 184 wherein the customizing of the defined theme is to modify the appropriate information for the defined theme.

194. (New) The method of claim 184 wherein the customizing of the defined theme is to modify the contextual situation represented by the defined theme.

195. (New) The method of claim 184 including:
 receiving an indication of a current contextual situation;
 determining that a copy of the defined theme that has not been customized matches the current contextual situation; and
 in response, presenting the indicated appropriate information for the defined theme.

196. (New) The method of claim 184 wherein the defining of the theme includes associating a priority with the defined theme, and wherein the customizing of the theme includes modifying the priority.

197. (New) The method of claim 184 wherein the defining of the theme includes associating permission information with the defined theme that specifies types of access to the defined theme that are allowed, and wherein the customizing of the theme includes modifying the permission information.

198. (New) The method of claim 184 wherein the defining of the theme includes associating security information with the defined theme, and wherein the customizing of the theme includes modifying the security information.

199. (New) The method of claim 184 wherein the defining of the theme includes specifying a relationship of the defined theme to other themes, and wherein the customizing of the theme includes modifying the specified relationship.

200. (New) The method of claim 199 wherein the specified relationship is a category of themes that is associated with the defined theme.

201. (New) The method of claim 184 wherein the defining of the theme includes associating a theme layout with the defined theme that includes one or more indications of the indicated appropriate information for the defined theme, and wherein the customizing of the theme includes modifying the theme layout.

202. (New) The method of claim 184 wherein the defining of the theme includes generating a new context server module capable of generating context information for the represented contextual situation or of generating a new context client module capable of producing responses appropriate to the represented contextual

situation, and wherein the customizing of the theme includes modifying the new context server module or new context client module.

203. (New) A computer-readable medium containing instructions that when executed cause a computing device to define a default theme and customize that theme for use in providing a response that is appropriate to a contextual situation represented by the theme, by performing a method comprising:

defining a default theme representing a contextual situation by,

receiving a specification of the represented contextual situation;

receiving one or more indications of a type of response that is appropriate to the represented contextual situation; and

defining a theme based on the received indications that can be used by any of multiple computing devices to provide the appropriate type of response when a current contextual situation matches the represented contextual situation; and

customizing the defined default theme in a specified manner so that the customized theme can be used to provide an appropriate type of response in a manner distinct from that of the default theme.

204. (New) A computing device for defining a default theme and customizing that theme for use by a specified computing device in presenting information that is appropriate to a contextual situation represented by the theme, comprising:

a theme definition component capable of defining a default theme representing a contextual situation by receiving a specification of the represented contextual situation, receiving one or more indications of information that is appropriate to the represented contextual situation, and defining a theme based on the received indications that can be used by any of multiple computing devices to present the appropriate information when a current contextual situation matches the represented contextual situation; and

a theme customization component capable of customizing the defined default theme to reflect a specified computing device so that the specified computing

device can use the customized theme to present the appropriate information in a manner specific to the specified computing device.

REMARKS

Applicants have added claims 134-204 in order to clarify the subject matter of their invention, and have also canceled claims 1-133. Thus, claims 134-204 are now pending.

Applicants respectfully request consideration of this application and its early allowance.

Respectfully submitted,
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APPENDIX – SPECIFICATION
MARKED TO SHOW CHANGES

Paragraphs beginning at Page 1, lines 4 and 14, respectively:

This application is a continuation of U.S. Patent Application No. 09/825,159, filed April 2, 2001 and currently pending. U.S. Patent Application No. 09/825,159 [This application] is a continuation-in-part of U.S. Patent Application No. 09/216,193 (Attorney Docket No. 29443-8001), filed December 18, 1998 and entitled “Method and System for Controlling Presentation of Information to a User Based on the User’s Condition”; of U.S. Patent Application No. 09/464,659 (Attorney Docket No. 29443-8003), filed December 15, 1999 and entitled “Storing and Recalling Information to Augment Human Memories”; and of U.S. Patent Application No. 09/724,902 (Attorney Docket No. 29443-8002), filed November 28, 2000 and entitled “Dynamically Exchanging Computer User’s Context,” which claims the benefit of provisional U.S. Patent Application No. 60/194,006 filed April 2, 2000, each of which [. Each of these applications] are hereby incorporated by reference in their entirety.

U.S. Patent Application No. 09/825,159 [This application] also claims the benefit of provisional U.S. Patent Application No. 60/193,999 (Attorney Docket # 29443-8008), filed April 2, 2000 and entitled “Obtaining And Using Contextual Data For Selected Tasks Or Scenarios, Such As For A Wearable Personal Computer,” and of provisional U.S. Patent Application No. 60/194,123 (Attorney Docket # 29443-8024), filed April 2, 2000 and entitled “Supplying And Consuming User Context Data,” both of which are hereby incorporated by reference in their entirety.